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affected, a masked symbol section **131** is made to have 256 chips in the same way as the conventional system. The CSC and GISC may be inserted in any section of four sections (**133**, **134**, **135** and **136**) obtained by dividing the mask symbol section at intervals of 64 chips. In the case where the symbol length of the GISC becomes short and consequently the number of GISCs is not enough for the number of classes of the long code which GISCs are assigned to, it is also possible to adopt such a method that long code identification groups are sorted out according to which of the four insertion sections they are inserted. In the masked symbol section, sections other than those of CSC and GISC are provided with no symbols.

If the symbol length is shortened, the number of times of possible accumulation times decreases. For obtaining the same receiving sensitivity, therefore, the transmission power must be raised. However, the perch channels are always subjected to transmission with constant power. In addition, the long code masked symbol portion is poor in orthogonality, and therefore, tends to exert interference power to other channels. Therefore, it is desirable to suppress the transmission power as low as possible. In the present embodiment, therefore, the CSC and GISC are not multiplexed, but the CSC and GISC are transmitted by time division in the long code masked symbol portion. Even if the spreading factor is reduced to $\frac{1}{4}$ at this time, transmission power **P3** of the CSC is twice the transmission power **P1** of the conventional technique and the same reception sensitivity is obtained. The same is true of the transmission power **P4** of the GISC.

As a second embodiment, FIG. 4 shows a channel format and transmission power in the case where the spreading factors of the CSC and GISC are made sufficiently small (16 in the example) as compared with other symbols of the perch channels, and the CSC and GISC are multiplexed and transmitted. It is necessary to make transmission power **P5** of the CSC and transmission power **P6** of the GISC large so as to correspond to the spreading factors. If the symbol rate of channels other than perch channels is fast, then the number of perch channels which are affected by the fact that the perch channel power is increased will become large. In such a case, by multiplexing the CSC and GISC to shorten the section in which the transmission power becomes large as in the present embodiment, although the influence of the perch channels on other channels may be large, the shortening of the affecting symbol section surely causes influence as a whole to be lightened.

As a third embodiment, FIG. 5 shows a channel format and transmission power in the case where the spreading factors of the CSC and GISC are made sufficiently small (64 in the example) as compared with other symbols of the perch channels, and the GISC is repeated a plurality of times (three times in the example). By transmitting the GISC repetitively n times, the number of accumulation times is increased, and accordingly transmission power **P8** of the GISC of one time is equal to $1/n$ of transmission power **P7** of the CSC. As a result, influence on other channels is suppressed.

As a fourth embodiment, FIG. 6 shows a channel format and transmission power in the case where the spreading factor of the CSC is made smaller than that of the GISC (in the example, the spreading factor of the CSC is 64 and the spreading factor of the GISC is 256). In the above described three stages of the cell search, the GISC detection can be conducted by despreading only at timing designated from the CSC, and a correlator is used instead of the MF in many cases (as shown in FIG. 10, for example). As in the present embodiment, therefore, the speed of the search can be raised

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while suppressing the interference on other channels, by making the spreading factor of the CSC affecting the number of taps of the MF small and making the spreading factor of the GISC larger than it in order to suppress the transmission power.

In FIG. 7, there is shown a list of time required at each stage of the cell search obtained when the spreading factor of the long code masked symbol and the number of taps of the MF are changed.

By thus making the spreading factor of the long code masked symbol small, the time required for timing synchronization can be made shorter than that of the conventional method, and the number of taps of the MF can be shortened, resulting in reduced gate size and power consumption.

The present invention has been disclosed in connection with the preferred embodiments. Those skilled in the art can apply various modifications to the embodiments on the basis of the disclosure. All modifications existing within the true spirit and scope of the present invention are incorporated in the claims.

What is claimed is:

1. A slot timing synchronization method in a code division multiple access mobile communication system, said slot timing synchronizing method comprising the steps of:

transmitting from a base station a control signal via perch channel, a first section of one slot of said control signal being spread by a long period code assigned to said base station, a second section of said one slot being spread by a predetermined short period code; and

in a mobile terminal, despreading said second section of said one slot by using said predetermined short period code, and conducting slot timing synchronization by using a correlation value obtained as a result of despreading, a spreading factor of said predetermined short period code being set to a value smaller than a spreading factor of the long period code spreading said first section.

2. A slot timing synchronization method according to claim 1, wherein the base station makes transmission power of said second section larger than transmission power of said first section.

3. A slot timing synchronization method according to claim 1, wherein said second section is spread by a first short period code common to base stations included in the mobile communication system and a second short period code corresponding to classification of the long period code spreading said first section.

4. A slot timing synchronization method according to claim 3, wherein a spreading factor of said first short period code is set to a value smaller than that of said second short period code.

5. A slot timing synchronization method according to claim 3, wherein said second section is time-divided into a plurality of subsections, and said first short period code is spread in a first subsection, and said second short period code is spread in a second subsection.

6. A slot timing synchronization method according to claim 5, wherein the classification of the long period code spreading said first section is discriminated on the basis of said second short period code and a position of a subsection in which said second short period code has been spread.

7. A cell search method in a code division multiple access mobile communication system, said cell search method comprising the steps of:

transmitting a control signal from a base station via perch channel, a first section of one slot of said control signal